What Is Claimed Is:

1. An immunogenic composition, comprising:

(a) at least one viral envelope protein or fragment thereof exterior to a viral membrane, and

(b) an amount of at least one stabilizing peptide effective to disrupt formation of one or more structural intermediates necessary for viral fusion and entry, and, optionally,

(c) at least one viral cell surface receptor or fragment thereof, wherein the stabilizing peptide is capable of associating with the envelope protein or fragment thereof to form a stabilized, fusion-active structure.

2. The immunogenic composition of claim 1, wherein the at least one viral envelope protein or fragment thereof is a glycoprotein.

3. The immunogenic composition of claim 2, wherein the glycoprotein is the HIV-1 gp41/gp120 complex.

4. The immunogenic composition of claim 1, wherein the at least one viral cell surface receptor or fragment thereof is an HIV-1 cell surface receptor or a soluble fragment thereof.

5. The immunogenic composition of claim 4, wherein the HIV-1 cell surface receptor or fragment thereof is CD4.

6. The immunogenic composition of claim 1, wherein the at least one stabilizing peptide is selected from the group consisting of: a peptide comprising SEQ ID NO: 1, a peptide comprising a fragment of SEQ ID NO:1, a peptide comprising SEQ ID NO:2, a peptide comprising a fragment of SEQ ID NO:2, a peptide comprising SEQ ID NO:3, a peptide comprising a fragment of SEQ ID

NO:3, a peptide comprising SEQ ID NO:4, a peptide comprising a fragment of SEQ ID NO:4, a peptide comprising SEQ ID NO:5, a peptide comprising a fragment of SEQ ID NO:5, a peptide comprising SEQ ID NO:6, a peptide comprising a fragment of SEQ ID NO:6, a peptide comprising SEQ ID NO:7, a peptide comprising a fragment of SEQ ID NO:7, a peptide comprising SEQ ID NO:9, a peptide comprising a fragment of SEQ ID NO:9, a peptide comprising any combination of SEQ ID NOS:1-7 and 9, a peptide comprising any combination of fragments of SEQ ID NOS:1-7 and 9, a peptide functionally equivalent to any one of SEQ ID NOS:1-7 and 9, a homolog of any of SEQ ID NOS:1-7 and 9 and an analog of any of SEQ ID NOS:1-7 and 9.

7. An immunogenic composition, produced by a process comprising:

(a) incubating at least one non-infectious viral particle with a concentration of one or more stabilizing peptides effective to disrupt formation of one or more structural intermediates necessary for viral fusion and entry to obtain a mixture; and

(b) adding a soluble form of one or more viral cell surface receptors or a fragment thereof to the mixture, whereby an immunogenic composition is created.

8. The immunogenic composition of claim 7, comprising at least one viral envelope protein or fragment thereof exterior to the viral membrane, at least one viral cell surface receptor or fragment thereof and an amount of at least one stabilizing peptide effective to disrupt formation of one or more structural intermediates necessary for viral fusion and entry.

9. A method of preparing an immunogenic composition, comprising:

(a) incubating at least one non-infectious viral particle having at least one surface envelope protein or fragment thereof exterior to the viral membrane with an amount of at least one stabilizing peptide effective to disrupt

formation of one or more structural intermediates necessary for viral fusion and entry to obtain a protein/peptide first mixture;

(b) adding a soluble form of at least one cell surface receptor or fragment thereof to the protein/peptide first mixture to create a second mixture; and

(c) isolating the resulting fusion-active protein/peptide complex from the second mixture.

10. The method of claim 9, wherein the protein/peptide complex is isolated from the second mixture by treating the second mixture with a detergent.

11. The method of claim 9, further comprising:

(d) purifying the isolated protein/peptide complex.

12. The method of claim 11, wherein the isolated protein/peptide complex is purified by affinity chromatography, ion exchange chromatography, ultracentrifugation or gel filtration.

13. The method of claim 9, wherein the at least one surface envelope protein or fragment thereof is the HIV-1 gp41/gp120 complex.

14. The method of claim 9, wherein the at least one cell surface receptor or fragment thereof is an HIV-1 cell surface receptor.

15. The method of claim 14, wherein the HIV-1 cell surface receptor is CD4.

16. The method of claim 9, wherein the at least one stabilizing peptide is selected from the group consisting of: a peptide comprising SEQ ID NO: 1, a peptide comprising a fragment of SEQ ID NO:1, a peptide comprising SEQ ID

NO:2, a peptide comprising a fragment of SEQ ID NO:2, a peptide comprising SEQ ID NO:3, a peptide comprising a fragment of SEQ ID NO:3, a peptide comprising SEQ ID NO:4, a peptide comprising a fragment of SEQ ID NO:4, a peptide comprising SEQ ID NO:5, a peptide comprising a fragment of SEQ ID NO:5, a peptide comprising SEQ ID NO:6, a peptide comprising a fragment of SEQ ID NO:6, a peptide comprising SEQ ID NO:7, a peptide comprising a fragment of SEQ ID NO:7, a peptide comprising SEQ ID NO:9, a peptide comprising a fragment of SEQ ID NO:9, a peptide comprising any combination of SEQ ID NOS:1-7 and 9, a peptide comprising any combination of fragments of SEQ ID NOS:1-7 and 9, a peptide functionally equivalent to any one of SEQ ID NOS:1-7 and 9, a homolog of any of SEQ ID NOS:1-7 and 9 and an analog of any of SEQ ID NOS:1-7 and 9.

17. The method of claim 9, wherein the at least one cell surface receptor is obtained from a cell line that expresses CD4, an appropriate chemokine receptor, or a combination thereof.

18. The method of claim 17, wherein the appropriate chemokine receptor is selected from the group consisting of: CCR5, CXCR4 or a mixture thereof.

19. A method of preparing an immunogenic composition, comprising:

(a) incubating cells expressing at least one HIV envelope protein or fragment thereof exterior to the viral membrane with an amount of at least one stabilizing peptide effective to disrupt formation of one or more structural intermediates necessary for viral fusion and entry to obtain a protein/peptide first mixture;

(b) adding a soluble form of at least one cell surface receptor or fragment thereof to the protein/peptide first mixture to create a second mixture;

(c) isolating the resulting fusion-active protein/peptide complex from the second mixture by treating the second mixture with a lysis buffer; and

(d) purifying the protein/peptide complex.

20. The method of claim 19, wherein the protein/peptide complex is purified by affinity chromatography, ion exchange chromatography, ultracentrifugation or gel filtration.

21. The method of claim 19, wherein the cells expressing the at least one HIV envelope protein or fragment thereof are cells infected with a recombinant vaccinia virus expressing the HIV-1 envelope protein or fragment thereof.

22. The method of claim 19, wherein the at least one stabilizing peptide is selected from the group consisting of: a peptide comprising SEQ ID NO: 1, a peptide comprising a fragment of SEQ ID NO:1, a peptide comprising SEQ ID NO:2, a peptide comprising a fragment of SEQ ID NO:2, a peptide comprising SEQ ID NO:3, a peptide comprising a fragment of SEQ ID NO:3, a peptide comprising SEQ ID NO:4, a peptide comprising a fragment of SEQ ID NO:4, a peptide comprising SEQ ID NO:5, a peptide comprising a fragment of SEQ ID NO:5, a peptide comprising SEQ ID NO:6, a peptide comprising a fragment of SEQ ID NO:6, a peptide comprising SEQ ID NO:7, a peptide comprising a fragment of SEQ ID NO:7, a peptide comprising SEQ ID NO:9, a peptide comprising a fragment of SEQ ID NO:9, a peptide comprising any combination of SEQ ID NOS:1-7 and 9, a peptide comprising any combination of fragments of SEQ ID NOS:1-7 and 9, a peptide functionally equivalent to any one of SEQ ID NOS:1-7 and 9, a homolog of any of SEQ ID NOS:1-7 and 9 and an analog of any of SEQ ID NOS:1-7 and 9.

23. The method of claim 19, wherein the at least one cell surface receptor or fragment thereof is obtained from a cell line that expresses CD4, an appropriate chemokine receptor, or a combination thereof.

24. The method of claim 23, wherein the appropriate chemokine receptor is selected from the group consisting of: CCR5, CXCR4 or a mixture thereof.

25. The method of claim 19, wherein the at least one HIV envelope protein or fragment thereof is a recombinant form of the HIV-1 gp41 ectodomain.

26. The method of claim 19, wherein the protein/peptide complex is formed in the presence of a denaturant.

27. The method of claim 19, wherein the cells expressing the at least one HIV envelope protein or fragment thereof are cells transformed with a vector expressing the HIV-1 envelope protein or fragment thereof.

28. A method of preparing vaccine immunogens comprising isolating gp41 or a fragment thereof and introducing structure disrupting mutations into specific positions in the structural regions of gp41 or fragment thereof resulting in the production of a fusion-active vaccine immunogen.

29. The method of claim 28, wherein the mutations comprise substitutions of the invariant residues within the 4-3 heptad repeats found in each helical region with residues incompatible with the formation of α-helical secondary structure.

30. A product formed by the method of claim 9.